## NAVAL WAR COLLEGE Newport, R.I.

# THE STRATEGIC FAILURE OF OPERATION SOUTHERN WATCH AND THE NEED FOR A NEW COALITION BASED STRATEGY

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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Operation Southern Watch has been operating for over eight years, in an effort to change the behavior of the Iraqi regime. While the tactical results of this operation may appear measurably successful, it is having adverse effects at the strategic level. While politicians laud the success of national policy, asserting that the region is better off than before the Gulf War, military leaders focus narrowly on measurable results of the current military mission, such as no-fly zone violations.

Operation Southern Watch is a strategic failure that is leading to the demise of the Desert Storm coalition. A new strategy should be developed that will be acceptable to all coalition nations. All of the elements of power must be integrated into this strategy. U.S. Central Command (CENTCOM) should consider contributions from interagency organizations when developing a new course of action. The CENTCOM staff needs to develop a course of action that will ensure the support and participation of all coalition members for the long-term. Measures of effectiveness must be developed that will determine the effects that a course of action will have on the most important element of Gulf strategy - the coalition.

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#### **ABSTRACT**

The credibility and effectiveness of no-fly zones have been very contentious issues. Operation Southern Watch has been operating for over eight years, in an effort to change the behavior of the Iraqi regime. Politicians and military leaders praise the effects that the operation has supposedly had in achieving U.S. national policy. Yet, while the tactical results of this operation may appear measurably successful, it is having adverse effects at the strategic level. While politicians laud the success of national policy, asserting that the region is better off than before the Gulf War, military leaders focus narrowly on measurable results of the current military mission, such as no-fly zone violations. Both groups tend to avoid the discussion of recent trends that demonstrates the weakening resolve of the coalition to demand continued compliance with United Nations resolutions by Iraq.

Operation Southern Watch is a strategic failure that is leading to the demise of the Desert Storm coalition. A new strategy should be developed that will be acceptable to all coalition nations. All of the elements of power must be integrated into this strategy. U.S. Central Command (CENTCOM) should consider contributions from inter-agency organizations when developing a new course of action. The CENTCOM staff needs to develop a course of action that will ensure the support and participation of all coalition members for the long-term. Measures of effectiveness must be developed that will determine the effects that a course of action will have on the most important element of Gulf strategy—the coalition. While demonstrations of overwhelming military power may keep Saddam Hussein contained for the short-term, only a firmly united coalition will demonstrate the resolve necessary to guarantee long-term regional stability.

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#### I. INTRODUCTION

After almost 10 years of enforcement, the two no-fly zones (NFZ) in Iraq continue with no end in sight. Initially established to support United Nations Security Resolution (UNSCR) 688 regarding humanitarian crises in Iraq, the United States, Great Britain, and the United Nations (UN) are being heavily criticized over the effectiveness of these operations.<sup>1</sup> Current events signal that a defiant Iraq, led by Saddam Hussein, continues to test the resolve of the coalition. The United States has decided on specific national objectives that many of the coalition nations reject. While Operation Southern Watch (OSW) and Operation Northern Watch (ONW) appear to be effective at a tactical level, or even with regard to certain national objectives, they also pose the greatest risk to the coalition. Policy makers from each coalition nation and the UN need to meet and work out a new coalition strategy for dealing with Iraq. Once the CENTCOM staff receives this new guidance, they can plan alternative courses of action (COA) acceptable to all nations, rather than just the United States and Britain. Developing measures of effectiveness (MOE) that relate to the theaterstrategic level outcome, rather than tactical results, may lead to a COA acceptable to the entire coalition. Only a united coalition will have any chance of forcing Iraq to capitulate to UN demands.

This paper primarily examines Operation Southern Watch and the related U.S. objectives regarding Iraq. It briefly outlines the relationship between the military, diplomatic, informational, and economic elements of national power used in the Gulf region. Analysis will demonstrate that, while OSW may prove effective tactically, it is ineffective from a theater-strategic standpoint. These findings will support the need for a new coalition-based strategy. Finally, discussion of the elements of national power and the need to

understand how they affect one another will lead to considerations for developing more allencompassing MOE to test the success of a COA.

Mention should be made of what this paper does not cover. Unlike many writings, this paper will not attempt to discuss the legal implications of no-fly zones. In addition, some mention may be made of the unofficial terms air coercion, air occupation, air exclusion, or air intervention.<sup>2</sup> Many authors have discussed at length why a no-fly zone ought to be classified as one of these terms. In that regard, there is certainly no question that both USAF and joint publications must more closely examine the functions of no-fly zones and their relationship to military operations other than war (MOOTW). While a potentially rewarding area for further study, the purpose of this paper is to address a current, real time crisis, not make an attempt to produce more joint doctrine. Moreover, Maritime Intercept Operations (MIO) and the coalition Maritime Intercept Force (MIF) associated with these operations are only briefly mentioned, but not covered in detail. While OSW is the primary focus of this paper, ONW is also an essential part of any strategy dealing with Iraq. Any changes or recommendations regarding OSW would also be suggested for ONW, unless otherwise noted. Finally, this paper does not address a detailed history of U.S. policy and military operations against Iraq, including OSW and ONW. For an in-depth discussion of historical U.S.-Iraq policy and military operations, refer to the RAND Corporation's study entitled, "Confronting Iraq: U.S. Policy and the Use of Force Since the Gulf War."3

## II. U.S.-IRAQ POLITICAL AND MILITARY SITUATION

## U.S. Policy Toward Iraq

The most recent U.S. policy toward Iraq is one of "containment plus regime change".<sup>4</sup> Within this policy, there are four clear political objectives. They include 1) Containment, 2) Preventing weapons of mass destruction (WMD) Buildup, 3) Toppling Saddam's Regime, and 4) Preserving Regional Stability.<sup>5</sup> Each of these objectives is supported by strategies that utilize all the elements of national power.

#### Containment

Supporting containment of Saddam Hussein has long been the major effort of the Bush and Clinton administrations. Diplomatically, the U.S. attempts to isolate Iraq via various methods through the UN and other international efforts. Informational efforts attempt to demonstrate the violent and destructive behavior of the regime. Economic sanctions continue today in an attempt to keep Saddam from gaining wealth through the country's huge oil reserves. Militarily, NFZ operations implemented through ONW and OSW attempt to contain the Iraqi Air Force (IZAF). In addition, the "no drive zone", established by UNSCR 949 in response to another buildup of Iraqi forces along the Kuwaiti border, prevents Iraq from moving any large military "enhancements" south of the 32<sup>nd</sup> parallel. Finally, the large western military presence in the Gulf region strives to maintain deterrent pressure on Iraq.

## Prevent WMD Buildup

Diplomatic efforts included support for monitoring Iraqi WMD, justified by UNSCR 687, and carried out by the UN Special Commission group (UNSCOM). More recently, U.S.-led international efforts put pressure on the UN to recreate a more potent commission to

ensure monitoring, verification, and destruction of WMD. The successor to UNSCOM, known as the UN Monitoring, Verification, and Inspection Commission (UNMOVIC) was established by UNSCR 1284 in December 1999. It has yet to set foot in Iraq, which refuses to accept its validity. Additional diplomatic efforts try to prevent foreign technology acquisition from many different countries. Informational efforts stress the dangers of an Iraq with WMD capability controlling the vital interests of the Gulf region. Economic sanctions support sending UNMOVIC back into Iraq. Military power uses intelligence, surveillance, and reconnaissance (ISR) assets to monitor possible WMD manufacturing and, if necessary, launch attacks to destroy WMD facilities.

## Toppling the Regime

The current administration has explicitly stated its desire to remove Saddam Hussein from power. The U.S. pursues diplomatic efforts to gain support for opposition movements against Saddam, particularly with the Gulf region states. International humanitarian agencies gather information from within Iraq to spread to the outside world about his brutality. The U.S. Congress recently earmarked a total of \$96 million, and provided \$4 million of that to the Iraqi National Congress (INC), an opposition group attempting to remove Saddam Hussein. Military power in the form of the NFZ supports efforts of opposition groups by providing underlying sanctuaries safe from Iraqi military forces.

# Preserve Regional Stability

The United States walks a tightrope when it comes to this objective. Without the current presence of military forces, either an aggressive Iraq or Iran might pursue coercive methods via WMD or overwhelming military power. At the same time, U.S. efforts must balance the desire to maintain military access in the region with the need to maintain a

regional coalition. Informational means provide one way of convincing coalition countries that Iraq is an aggressive state. Military ISR operations provide critical information to show that if he is let out of the "box" he will threaten stability. The U.S. military performs large-scale training exercises with Gulf nations to move them toward greater independence in the future and to demonstrate U.S. commitment in the region. Economically, Gulf nations purchase modern U.S. military equipment that assists their militaries and provides compatibility with U.S. forces.

# Military Support of U.S. National Objectives

CENTCOM strategy further demonstrates a direct link between national and military objectives. CENTCOM derives its theater strategy, "Shaping the Central Region for the 21st Century", directly from the National Security Strategy (NSS) and the National Military Strategy (NMS). Specific theater goals are divided into three categories of warfighting, engagement, and development. Warfighting focuses on ensuring military access, building and maintaining military infrastructure, deterring and containing hostile forces through presence, maintaining readiness to fight and protecting U.S. forces through safety and security. Engagement goals support and provide training to Gulf Cooperation Council (GCC) nations and their militaries, promote efforts to counter WMD and terrorism, and establish and maintain close relationships with political and military leaders. Development promotes humanitarian and environmental efforts, and educates key leaders and the American public on the missions of CENTCOM and the importance of the Central Region. The theater strategy provides clear guidance to a desired end-state of Gulf region peace and stability, supporting U.S. national objectives.

The OSW mission is "to plan and, if directed, conduct air campaigns against Iraqi targets...to enforce the 'No-Fly Zone' south of the 33<sup>rd</sup> parallel, the 'No-Drive Zone' south of the 32<sup>nd</sup> parallel, and to be prepared to conduct operations in support of Naval Central Command's maritime interception operations during gaps in carrier battle group presence." The OSW objectives are to prevent IZAF air operations south of the 33<sup>rd</sup> parallel and to report and be ready to destroy any Iraqi enhancements in military equipment south of the 32<sup>nd</sup> parallel. Both of these objectives attempt to protect the Shi'a refugees in the south and protect GCC nations from Iraqi aggression. "ONW and OSW have ensured that Baghdad is unable to use fixed-wing aircraft and helicopters against populations of northern and southern Iraq, a limitation that sharply reduces the effectiveness of regime operations." As for the Shiites, enforcement of the NFZ has prevented the IZAF from attacking refugees. Reports exist of small scale military and security attacks on refugee villages, but Iraq has been prevented from effective large-scale operations in the south.

The preceding evidence asserts that the strategy against Iraq is working. According to the Defense Department, through the use of ONW, OSW, and MIO, Saddam is contained, his WMD buildup has been significantly slowed by several years, and the stability of the Gulf region is certainly much better than before the Gulf War. The only objective that hasn't been attained is the toppling of Saddam's regime. However, a closer examination may shed some light on the true effectiveness of OSW, ONW, MIO, and the sanctions.

#### III. IDENTIFYING THE PROBLEM

## Failed Strategy

Although many state and defense department officials seem quite satisfied believing that the U.S. policy in Iraq is working, an increasing amount of evidence suggests otherwise. Iraq continues to pose the major short-term challenge to stability in the Middle East. <sup>19</sup>

Saddam Hussein will continue to challenge the international community because his goals remain regional domination and revenge. <sup>20</sup> Starting two major wars and attempting the assassinations of President Bush and the Emir of Kuwait demonstrate his conviction. <sup>21</sup>

# Diplomatic and Economic Situation

Diplomatically and economically, the trade embargo continues to lose international support, while many nations remain eager to benefit financially by trading with Iraq.<sup>22</sup>

Turkish officials express serious concerns about the \$90 billion in trade they have lost with Baghdad.<sup>23</sup> France has significant business interests in Iraq. French companies Total and Elf concluded deals to develop Iraqi oilfields for multi-billion dollar contracts.<sup>24</sup> China and Russia concluded similar deals for oil development, while the United States blocked its major oil companies from doing the same. Russia also seeks to rebuild Iraq's war machine through military equipment sales. The Russians would also like to collect more than \$7 billion in debt owed to them before the war.<sup>25</sup>

Further signs that diplomatic efforts have weakened include ejection of UNSCOM from Iraq. While the UN supports placing UNMOVIC in the country to monitor WMD, for more than two years the Iraqi WMD program has gone unmonitored. The UN continues to monitor the "oil-for-food" deal, but has increased the total exports allowed to an amount of money greater than the Iraqi oil industry can produce.

#### Military Situation

In terms of military operations, the situation looks just as bad. The MIF provides the most direct link between economic and military elements of national power by monitoring what comes out of and goes into Iraq. Although the MIF, established by UNSCR 665, is fairly effective in monitoring, forces are not large enough to monitor all shipping activities. Plenty of evidence exists that Saddam is just selling the food and medical supplies purchased through the "oil for food deal" as contraband to build his personal finances. Arab states, in particular, remain critical of continued air strikes against Iraqi targets by U.S. and British aircraft. Since September 1996, Saudi Arabia has refused the use of its territory for strike capable cruise missiles and aircraft. The other GCC nations criticize Kuwait for allowing U.S. and British aircraft to bomb from its bases. The French no longer participate in NFZ operations and openly support the lifting of sanctions. Due to strained coalition relations, retaliatory attacks such as Desert Strike and Desert Fox consisted largely of U.S. carrier assets only, and/or Kuwait-based assets, and were highly criticized by most of the Arab community.

In 1999 alone, there were over 600 violations of the NFZ, mainly due to firings upon coalition aircraft.<sup>29</sup> It should be clarified that a NFZ violation includes not only penetrations by the IZAF south of the 33<sup>rd</sup> parallel, but also any firings upon coalition aircraft from air defense systems such as surface-to-air missile (SAM) and anti-aircraft artillery (AAA) systems. Shouldn't the movements of SAM and AAA equipment below the 32<sup>nd</sup> parallel be considered "military enhancements" in direct violation of UNSCR 949 and the no-drive zone? In response to the attacks on coalition aircraft, the U.S. and U.K. have resorted to "defensive responses" which allow coalition aircraft to bomb related Iraqi air defense targets

such as SAM and AAA sites, as well as radar facilities. The attacks by coalition aircraft in "self-defense" receive the most criticism, cited as unjustified retaliatory attacks against a nation that has the legal right to defend its own airspace. The operation is viewed internationally as a tit-for-tat solution to "needle" Saddam, get him to react, and justify continued operations and sanctions. Most recently, commercial flights have commenced into and out of Iraq, severely complicating NFZ operations, due to the fear of an accidental shoot down of civilian aircraft. The UN sanctions committee believes commercial flights to and from Iraq amount to trade and are in violation of sanctions. Humanitarian flights, however, don't count. Nations such as Jordan, Egypt, Yemen, the United Arab Emirates, and Russia have commenced "humanitarian flights" with Iraq. Although the official position of the U.S. is that commercial flights do not cause problems, there is no monitoring system to ensure that these flights are humanitarian based.

## The Elements of National Power: An Inseparable Relationship

Contrary to statements from politicians and military leaders, the strategy is not providing the desired success. At the root of each national objective is one critical element – the coalition. Many of the coalition nations allow OSW, ONW, and MIO forces to operate from their territories. Coalitions support UN monitoring organizations like UNSCOM and UNMOVIC, which investigate Iraqi WMD. ISR platforms must use coalition bases to monitor Iraqi military and WMD activities. Finally, without a united coalition, stability might never take place and lead to a rejection of U.S. influence in the Gulf region.

At this point, the question arises, "But what do sanctions and saving the coalition have to do with OSW and ONW?" In a recent interview, Lt. Gen. Chuck Wald, 9<sup>th</sup> Air Force and U.S. Central Command Air Force (CENTAF) commander, made the following comment:

"The folks at Operation Southern Watch aren't directly related to the sanctions (against Iraq). Sanctions are things like restricting flights into Iraq. We are here to prevent Iraq from attacking Iraqi people in the southern part of the country. Additionally, we are here for regional stability. But, we don't have a mission for sanctions." 33

Granted, OSW in and of itself may not have a direct responsibility to uphold sanctions, but is it really unrelated to the success of sanctions? OSW, just like any other "tool" of national power, may well have an impact upon all of the U.S. national objectives, regardless of its military scope. One of the major factors contributing to the slow "decay" of U.S. policy in Iraq appears to be the perception by military leadership that the military element of national power is unrelated to the other diplomatic, economic, and informational tools in our kit. To state flatly that OSW is unrelated to sanctions is almost like stating that the military mission in Iraq is unrelated to national policy. Without the integration of all the elements of national power, U.S. policy in Iraq is destined to fail. Besides, how does one test the success of an operation? The true success of any military operation is whether or not it supports national objectives. Current joint doctrine places the responsibility upon the theater commander (CINC) to translate the national objectives into measurable military objectives.<sup>34</sup> Military objectives and the MOE we derive from them are specifically designed to achieve our national objectives. In the case of OSW, the CENTCOM staff must determine the MOE that will test its success and periodically measure whether or not the operation is still providing the desired results. If it isn't meeting expectations, a new COA must be developed that will improve the situation. As noted, events clearly demonstrate that although OSW may be effective in "keeping bombs off the heads of refugees," the operation is negatively impacting the cohesion of the Gulf coalition. This impact will have a direct effect on whether or not our coalition partners will support continued sanctions against Iraq. While containment in

the skies may be working, the OSW "tool" is damaging our economic tools (sanctions), diplomatic tools (coalition support), and our informational efforts (world opinion).

In addition to reminding the military that their COA will have a direct effect on the success of the other elements of power, politicians need to be reminded that the U.S. probably cannot be successful, at least in the long run, in "strong-arming" our coalition partners to accepting a U.S. national objective that they don't support. More specifically, when post-Gulf War operations kicked off and the United States supported the overthrow of Saddam Hussein, our coalition partners did not support such a goal. "Iraq's neighbors (mostly our coalition partners) feared that such a drive could lead to the country's dismemberment into separate Kurdish, Sunni, and Shiite zones. Many in the region privately preferred a weak but unified Iraq to the uncertainties of any alternative (particularly vis-à-vis Iran)." In response, the United States scratched that explicit goal from the record in order to maintain a healthy coalition. Once again, however, one of our explicit goals is "toppling the regime," even though the same coalition partners still reject this plan.

## IV. DEVELOPING A NEW STRATEGY

The preceding discussion might indicate that the only way to solve the Iraq issue is to deal with it at the national level. While this may be a good start (as well as the root problem), it is not the only area that needs serious work. The primary analysis should come from theater-strategic level experts and include more than just the military aspect. MOE should identify a COA that best supports the strategy in its entirety, instead of just the military objectives.

## Worth the Effort?

The very first consideration is whether or not the operation is worth continuing.

Critics of U.S. national policy typically argue that the policy is either too dangerous, costs the U.S. too much, or costs the Iraqi people too much. A brief discussion of each of these arguments follows.

#### Too Dangerous

The too dangerous theory purports that the risks of the operation are not worth the effort. First of all, this view ignores the simple fact that not a single aircraft has been shot down in either Iraqi NFZ since the beginning of operations. Although we currently send approximately 30 to 40 aircraft into the southern NFZ almost every day of the month, none of them have been hit.<sup>37</sup> Finally, the operation is periodic and non-predictable. It covers a very small portion of each day, randomly. Thus, risks tend to be minimized.

#### Costs the United States too much

Joint Task Force, South West Asia (JTF-SWA) operations alone cost approximately \$2 billion per year. Operations include 20,000 personnel from all the services, 200 aircraft, and 25 ships.<sup>38</sup> While this is a large fiscal commitment, one must examine why we became

involved and what we are protecting. The U.S. imported over 1,250,000 barrels of oil per day from Saudi Arabia between 1993 and 1997, the average barrel nominally costing \$25; today's figures remain largely the same.<sup>39</sup> Annually, the U.S. imports approximately \$11.5 billion in oil from just Saudi Arabia. If a rogue nation such as Iraq controlled the area, prices could skyrocket and send the world economy into a tailspin. Therefore, arguing that a \$2 billion operation doesn't justify protecting an \$11.5 billion operation is highly questionable.

## Costs the Iraqi People too much

This theory rests upon the cost of sanctions, bombing of the Iraqi people, and the ineffectiveness of the NFZ to support refugees. Under UNSCR 986 and follow-on resolutions, Iraq sells large amounts of oil (over \$10 billion per year) and the UN controls the assets to ensure that the proceeds go to food and medical supplies for the people.<sup>40</sup> Unfortunately, no coercive control exists for ensuring that Saddam distributes the supplies and food to the population. Many humanitarian organizations verify that he maintains the bulk of the products for his ruling elite and closest security forces.<sup>41</sup> This argument probably does demonstrate a need for tighter UN controls within Iraq. As for the NFZ operations bombing innocent Iraqi people, however, this is simply not true. While accidents happened in the past, their frequency remains exceptionally small for the number of times Iraq attempts retaliation against coalition aircraft. Finally, with regard to an ineffective NFZ, the Kurdish infrastructure in Northern Iraq enjoys relative stability and prosperity.<sup>42</sup> Unfortunately, Saddam Hussein has used many other methods, such as diverting natural water sources and small scale ground attacks to control the Shi'a; operations that remain outside the scope of OSW. To remove the umbrella of air cover, however, could lead to possible all out military assaults by the IZAF.

## Develop a Coalition Strategy

After determining that the value of the operation is worth the effort, the next step would be to give the CINC guidance as to exactly what needs to be done. While the current national policy gives broad guidance, it is just that; national policy. The National Command Authority (NCA) should start by helping to put the backbone back into the coalition. The only way to do that is to get together and decide what will and won't be supported by all nations. For the purposes of this paper, consider the current national policy. Of the four objectives, toppling the regime is not acceptable to all members, as stated previously. Continuing diplomacy could attempt to convince our coalition partners that this objective is essential, but due to its controversial nature, it should be omitted it as a coalition objective. On the other hand, containment, preventing WMD buildup, and preserving regional stability probably remain acceptable to everyone.

## Use all of the Tools

One of the major problems identified earlier with OSW is the perception by military leaders that our operations are unrelated to other tools, like sanctions. Joint Publication 3-08 (JP 3-08), "Interagency Coordination During Joint Operations," describes how a CINC can take advantage of the other elements of national power via non-military means. <sup>43</sup> JP 3-08 deals with government and non-government agencies alike, primarily within the scope of MOOTW. While the publication is relatively new (1996), it gives excellent guidance that a CINC could use in developing a fully integrated, multi-agency COA for a given operation. While it is much easier to just look at an operation in its strictest sense (i.e., enforcement of the no-fly zones), the reality of today's strategy against Iraq is that it will require much more than just a military component to succeed. Once the CENTCOM staff familiarizes itself with

all of the tools available and how they relate to each other, they hopefully will have a greater appreciation for the grand scheme of the strategy instead of focusing on only the military aspect.

When deciding which tools to use, the primary consideration should be effective use of the coalition. Until now, the U.S. has largely guided strategic Gulf region decisions. Additionally, the U.S. has come to the aid of our coalition partners to improve the "collective security" of the region. This aid was mainly in the form of military equipment and training. The GCC nations have ample military equipment (especially modern aircraft) and are well trained. They could significantly assist the OSW mission. When OSW commenced in 1992, Saudi Arabia supported the operation with its E-3 AWACS and F-15s. The French Air Force initially participated in both OSW and ONW. It is time we reconsider the heavily American and British composition of our current forces in OSW and ONW. Many coalition nations would not consider flying in the current operation, but finding a way to change it so they will participate could do wonders for signaling resolve to Iraq.

## Developing Measures of Effectiveness

Once the CENTCOM staff has received the new guidance from the NCA and considered all the tools that are available, they would perform mission analysis and come up with the military objectives. From there, some potential COA and valid MOE would be developed. The MOE should consider the possible impact of the operation on all coalition objectives. With regard to OSW, Lt. Gen. Wald and his staff might believe, for example, that the two major MOE are 1) the number of NFZ violations and 2) the number of Iraqi refugees attacked in the south. He and his staff might also consider MOE such as 3) attacks on coalition partners, and 4) destruction of Iraqi SAM, AAA, and IADS. While these MOE may

measure the tactical effects of OSW, they fail to take into account the long-range theaterstrategic effects.

More comprehensive MOE should consider the impact on the coalition, since it is so vital to long-term success. If we decide on a particular COA, how will it 1) affect coalition cohesion? If the United Arab Emirates doesn't want the NFZ turned into a bombing campaign, but that is what happens, then the likelihood of maintaining their support might be low. Another example might measure the 2) number of nations that support the UN to get inspection teams such as UNMOVIC back into Iraq. Additional MOE could include 3) how many nations support continued economic sanctions against Iraq. A final MOE could account for the 4) number of coalition nations that support continued U.S. military presence in the region. These MOE would demonstrate more long-term support for a selected COA.

#### Alternatives to OSW

Over the course of ten years, OSW has changed very little. Prior to the more recent strategy, the NFZ did not include responsive bombing. Once the United States decided to become more aggressive, other coalition nations became more critical. Possible alternatives could include everything from putting ground forces in country to packing up and leaving. Obviously, placing forces on the ground is as likely to get as much support as trying to overthrow Saddam. Conversely, packing up and leaving is probably not something the coalition nations would appreciate or they would have already asked us to do so. What the coalition is left with includes four basic options. They include; 1) maintain the status quo, 2) patrol the NFZ without bombing, 3) patrol from the borders of Saudi Arabia and Kuwait, and 4) long-range deterrence.

Considering the negative feedback from France and other coalition nations about bombing operations, the status quo may not be an option much longer. The major difference between the next two options is a decision of whether or not to give Iraq back its airspace and give up some valuable ISR capability in doing so. Backing off to a NFZ operation that doesn't include bombing might be effective in bringing all of the coalition nations to the table to discuss further options. Assuming that Saddam ceased attacks on the coalition, an opportunity might exist to pull back to the borders and move into more of a deter phase, while still maintaining military presence in the region. Regarding the last option, retired USAF General Richard Hawley believes that America could rely on the military's ability to project power rapidly from long distances, using naval forces and expeditionary wings, including long range bombers, to strike Iraq if required. However, this option, while cutting back considerably on operational cost and risk, would leave the U.S. with no way to maintain vital infrastructure, regional ISR, or presence in the region.

The bottom line for OSW is that some variation on the current theme is probably the answer, just as many experts suggest. Exploring why many of the nations are involved in MIO, but not in OSW may be a good starting point. A recommended COA would include air assets from the entire coalition, including France, Saudi Arabia, and the other GCC nations. Additionally, an immediate cessation of bombing would help gain greater international support. Continued patrol of the NFZ would be a good starting point, but demonstrated compliance by Iraq should eventually lead to a deterrence operation from outside the borders. When all is said and done, a united coalition effort, with an acceptable strategy, is far more valuable to OSW than a dual nation (U.S. and Britain) effort, in a multi-national coalition where there is no consensus on the use of military force.

#### V. CONCLUSION

Critics of no fly zones tend to view them as transient phenomena that accomplish limited, tactical objectives. Correspondingly, they conclude that continuing no-fly zones makes excessive demands on an already heavily tasked military, and, as a result, should be terminated as soon as possible. These views may be based on a narrow understanding of the concept that ignores the broad diplomatic advantages provided by modern aerospace power.<sup>47</sup>

-David Deptula

Air coercion alone is not a panacea. For OSW to be effective, military leaders must consider its impact at the strategic level. The continued success of OSW is completely dependent upon a united coalition. Without a coalition, there would be no infrastructure for the land based military forces that make up the operation. Ensuring the free flow of oil would be very difficult without the cooperation of the GCC nations. Negotiating a strategy that the GCC nations explicitly support and actively participate in will ensure success for the long-term.

As the crucial link between national policy and the military element of national power, the CINC must consider the long-term effects each potential COA will have and propose the most balanced COA for the strategy. The CINC should consider using the strength of interagency experts to establish close ties with and gain the support of the coalition nations. The CINC should also consider each potential COA from the viewpoint of every coalition partner. MOE should measure more than military success. A given COA must be measured for the impact it will have on the other elements of power.

The new administration will certainly conduct a policy review on Iraq. When they come looking for answers, CENTCOM must be ready to present a COA that the entire coalition supports and is willing to take part in. For OSW, the use of overwhelming force is not nearly as important as the resolve of a united coalition that will stand the test of time.

# APPENDIX I: ABBREVIATIONS

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AAA
CENTCOM
CINCCommander-in-Chief
COACourse of Action
GCCGulf Cooperation Council Nations
INCIraqi National Congress (opposition government to the Hussein regime)
ISR
I7AFlraqi Air Force
JTF-SWAJoint Task Force Southwest Asia
MIF
MIO Maritime Intercept Operations
MOE
MOOTWMilitary Operations other than War
NCANational Command Authority
NFZ
NMSNational Military Strategy of the United States of America
NSSNational Security Strategy of the United States of America
ONW Operation Northern Watch
OSWOperation Southern Watch
SAMSurface to Air Missile System
UN
UNMOVICUnited Nations Monitoring, Verification, and Inspection Committee
UNSCOM
UNSCR
U.SUnited States of America
USAFUnited States Air Force
USCENTAFU.S. Air Forces Central Command
USCENTCOM
WMDWeapons of Mass Destruction

#### **NOTES**

<sup>1</sup>"Humanitarian basis for the no-fly zones," <u>House of Commons – Defence – Thirteenth Report</u>, 2 August 2000, <<u>http://www.fas.org/news/iraq/2000/07/45306.htm</u>> [6 December 2000].

<sup>2</sup>David A. Deptula, "Air Exclusion Zones: An Instrument of Engagement for a New Era," <u>Air Power Conference 2000: Air Power and Joint Forces</u> (Canberra, Australia: Royal Australian Air Force, May 2000), 121 - 135.

<sup>3</sup> Daniel L. Byman and Matthew C. Waxman, <u>Confronting Iraq</u>: <u>U.S. Policy and the Use of Force since the Gulf War</u> (Arlington: RAND, 2000), 37-71.

<sup>4</sup>Martin S. Indyk, "Testimony, House International Relations Committee," <u>United States Policy Toward the Middle East</u>, Washington, DC, 8 June 1999, <a href="http://www.state.gov/www/policy\_remarks/1999/990608\_indyk\_mepolicy.html">http://www.state.gov/www/policy\_remarks/1999/990608\_indyk\_mepolicy.html</a>> [6 December 2000].

<sup>5</sup>Daniel L. Byman and Matthew C. Waxman, 25.

<sup>6</sup>Indyk, "Testimony."

<sup>7</sup>Ibid.

8"Humanitarian basis for the no-fly zones."

<sup>9</sup> "Summary of UN Security Council Resolutions on Iraq," <u>USCENTCOM Theater Strategy</u>, 14 Feb 2000, <a href="http://www.centcom.mil/theater\_strat/theater\_strat.htm">http://www.centcom.mil/theater\_strat/theater\_strat.htm</a>> [6 December 2000].

<sup>10</sup>Indyk, "Testimony."

<sup>11</sup>Alina L. Romanowski, "Testimony, House International Relations Committee," <u>U.S.-IraqPolicy</u>, 23 March 2000, <a href="http://www.usis.it/file2000\_03/alia/a0032418.htm">http://www.usis.it/file2000\_03/alia/a0032418.htm</a> [7 December 2000].

<sup>12</sup>Philip T. Reeker, "Statement," U.S. Department of State, <u>Funding Agreement with Iraqi National Congress</u>, 2 October 2000, <<u>http://usinfo.state.gov/regional/nea/iraq/iraq.htm</u>> [21 December 2000].

<sup>13</sup> "United States Central Command," <u>USCENTCOM Theater Strategy</u>, 14 February 2000, <a href="http://www.centcom.mil/theater\_strat/theater\_strat.htm">http://www.centcom.mil/theater\_strat/theater\_strat.htm</a>> [21 December 2000].

<sup>14</sup>Ibid.

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<sup>15</sup> JTF-SWA J2, <u>JTF-SWA Mission</u>, 9 November 2000, <<u>www.jtfswa.centcom.smil.mil.links/</u> > [11 January 2001].
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<sup>16</sup>Ibid.

<sup>17</sup>Romanowski, "Testimony."

<sup>18</sup>Ibid.

<sup>19</sup>Clawson, 2.

<sup>20</sup>Ibid., 2.

<sup>21</sup>Ibid., 2.

<sup>22</sup>John Lancaster, "U.S. to Give Help to Iraqi Opposition," <u>MSNBC News:</u> <u>International News</u>, 14 January 2000, p. 2, <<u>http://www.msnbc.com/msn/516026.asp</u>> [14 January 2000].

<sup>23</sup>Bryan Bender and Andrew Koch, "Poisoned Cigars, Perhaps?" <u>Jane's Defense Weekly</u>, 12 April 2000, p. 2, <a href="http://peacock.policy.osd.pentagon.mil/ebird/ebird\_sup/s20000413poisoned.htm">http://peacock.policy.osd.pentagon.mil/ebird/ebird\_sup/s20000413poisoned.htm</a> [6 December 2000].

<sup>24</sup>"Iraq to Sign Oil Deals with China, France," <u>Indian Express Newspapers</u>, 10 May 1997, <<u>http://www.expressindia.com/fe/daily/11970511/13155303.html</u>> [15 January 2001].

<sup>25</sup>Bender and Koch, 2.

<sup>26</sup>Ibid., 3.

<sup>27</sup>William A. Rugh, "Time to Modify our Gulf Policy," <u>Middle East Policy Council</u> <u>Journal: Middle East Policy</u>, Vol. 5 (January 1997): 1. < <a href="http://www.mepc.org/journal/9701\_rugh.html">http://www.mepc.org/journal/9701\_rugh.html</a>> [7 December 2000].

<sup>28</sup>Bender and Koch, 3.

<sup>29</sup>Ibid.

<sup>30</sup> Byman and Waxman, p. 80.

<sup>31</sup> "Airlines prepare to resume flights to Iraq, paper reports," <u>CNN.Com</u>, 17 Dec 2000, <a href="http://www.cnn.com/2000/WORLD/meast/12/17/iraq.airlines.reut/index.html">http://www.cnn.com/2000/WORLD/meast/12/17/iraq.airlines.reut/index.html</a> [22 December 2000].

<sup>32</sup>Ibid.

<sup>33</sup>Maier, Cindy, "CENTAF Commander Visits Southwest Asia," <u>Air Force Link</u>, 17 January 2001, <a href="http://www.af.mil/news/n20010117\_0059.shtml">http://www.af.mil/news/n20010117\_0059.shtml</a> [17 January 2001].

<sup>34</sup>"Shape, Respond, Prepare Now: A Military Strategy for a New Era," <u>National Military Strategy</u>, Chairman of the Joint Chiefs of Staff, 1997.

<sup>35</sup>Robert S. Litwak, <u>Rogue States and U.S. Foreign Policy: Containment after the Cold War</u>, (Washington, D.C.: Woodrow Wilson Center Press, 2000), 127.

<sup>36</sup>Ibid., 128.

<sup>37</sup>JTF-SWA J2.

<sup>38</sup> Pauline Jelinek, "U.S.: There's No Better Way Against Saddam," <u>Fort Worth StarTelegram</u>, 20 September 2000, <a href="http://peacock.policy.osd.pentagon.smil.mil/ebird/e20000921us.htm">http://peacock.policy.osd.pentagon.smil.mil/ebird/e20000921us.htm</a>> [6 December 2000]

<sup>39</sup>"U.S. Crude Oil Imports: Growing U.S. Dependence," <u>Energy Information Administration / Petroleum 1996: Issues and Trends</u>, February 1997, p. 76; Douglas MacIntyre, "Crude Oil Market Outlook: State Heating Oil and Propane Program Conference," <u>Petroleum Division, Energy Information Administration</u>, 21 August 2000, <www.eia.doe.gov> [29 December 2000].

<sup>40</sup>Patrick L. Clawson, "Iraq Strategy Review: Five Options for U.S. policy," <u>The Washington Institute for Near East Policy</u>, 1998, <a href="http://www.washingtoninstitute.org/pubs/iraqintro.htm">http://www.washingtoninstitute.org/pubs/iraqintro.htm</a>> [21 December 2000].

<sup>41</sup>Jelinek.

<sup>42</sup>Byman and Waxman, 46.

<sup>43</sup>The Joint Chiefs of Staff, <u>Joint Pub 3-08 Interagency Coordination During Joint Operations (vol I&II)</u>, Washington, DC: Government Printing Office, 1996.

<sup>44</sup>Ibid., 49.

<sup>45</sup>Margaret Warner, "Interviews: A Continuing Fight," <u>PBS Online News Hour</u>, 17 August 1999, <<u>http://www.pbs.org/newshour/bb/middle\_east/july-dec99/iraq\_8-17.html</u>> [7 December 2000].

<sup>46</sup>Maier.

<sup>47</sup>Deptula, 131.

#### **BIBLIOGRAPHY**

- Armitage, David M. "Economic Sanctions on Iraq: Going Nowhere Fast." Unpublished Research Paper, U.S. Army War College, Carlisle Barracks, PA: 1998.
- Bender, Bryan and Andrew Koch. "Poisoned Cigars, Perhaps?" <u>Jane's Defense</u>

  <u>Weekly</u>, 12 April 2000, p. 2.

  <a href="http://peacock.policy.osd.pentagon.mil/ebird/ebirdsup/s20000413poisoned.htm">
   [6 December 2000].
- Binnendijk, Hans, ed. <u>Strategic Assessment 1997: Flashpoints and Force Structure</u>. Washington, D.C.: National Defense University, Institute for National Strategic Studies, 1997.
- . Strategic Assessment 1999: Priorities for a Turbulent World.

  Washington, D.C.: National Defense University, Institute for National Strategic Studies, 1999.
- Byman, Daniel L. and Matthew C. Waxman. <u>Confronting Iraq: U.S. Policy and the use of Force since the Gulf War.</u> Santa Monica: RAND, 2000.
- . "Coercing Saddam Hussein: Lessons from the Past." <u>Survival</u>, 40-3 (Autumn 1998): 127-151.
- . Air Power as a Coercive Instrument. Santa Monica: RAND, 1999.
- Clawson, Patrick L. "Iraq Strategy Review: Five Options for U.S. Policy."

  <u>TheWashington Institute for Near East Policy</u>, 1998.

  <a href="http://www.washingtoninstitute.org/pubs/iraqintro.htm"> [21 December 2000].</a>
- Deptula, David A. "Air Exclusion Zones: An Instrument of Engagement for a New Era."

  <u>Air Power Conference 2000: Air Power and Joint Forces</u>. Canberra, Australia: Royal Australian Air Force, May 2000.
- Dippold, Marc K. "Air Occupation: Asking the Right Questions." Unpublished Research Paper, Air Command and Staff College, Maxwell AFB, AL: 1997.
- Fischer, Michael E. <u>Mission-Type Orders in Joint Air Operations</u>. Maxwell AFB, AL: Air University Press, 1995.
- Huber, Jeff. "Thou Shalt Not Fly." <u>U.S. Naval Institute Proceedings</u>, vol. 125 no. 8 (August 1999): 26 28.

- "Humanitarian basis for the no-fly zones." House of Commons Defence Thirteenth Report, 2 August 2000. <a href="http://www.fas.org/news/iraq/2000/07/45306.htm">http://www.fas.org/news/iraq/2000/07/45306.htm</a> [6 December 2000].
- Indyk, Martin S. "Testimony, House International Relations Committee."

  <u>United States Policy Toward the Middle East.</u> Washington, DC. 8 June 1999.

  <a href="http://www.state.gov/www/policy\_remarks/1999/990608\_indyk\_mepolicy.html">http://www.state.gov/www/policy\_remarks/1999/990608\_indyk\_mepolicy.html</a>
  [6 December 2000].
- "Iraq: The Forgotten War." <u>Defense Monitor</u>, vol. 28 no. 4 (April 1999): 5 7.
- Jelinek, Pauline. "U.S.: There's No Better Way Against Saddam." Fort Worth Star-Telegram, 20 September 2000. <a href="http://peacock.policy.osd.pentagon.smil.mil/ebird/e20000921us.htm">http://peacock.policy.osd.pentagon.smil.mil/ebird/e20000921us.htm</a> [6 December 2000].
- The Joint Chiefs of Staff. <u>Joint Pub 1-02: Department of Defense Dictionary of Military and Associated Terms</u>. Washington, DC: Government Printing Office, 2000.
- . <u>Joint Pub 3-0: Doctrine for Joint Operations</u>. Washington, DC: Government Printing Office, 1995.
- \_\_\_\_\_. Joint Pub 3-07: Joint Doctrine for Military Operations Other Than War. Washington DC: 1995.
- . Joint Pub 3-08 Interagency Coordination During Joint Operations (vol I&II). Washington, DC: Government Printing Office, 1996.
- . <u>Joint Pub 3-56.1: Command and Control for Joint Air Operations</u>. Washington, DC: Government Printing Office, 1994.
- . <u>Joint Pub 5-0: Doctrine for Planning Joint Operations</u>. Washington, DC: Government Printing Office, 1995.
- Jones, Elizabeth. "Statement, Senate Foreign Relations Committee." <u>U.S. Policy Toward Iraq</u>. Washington, D.C. 23 June 1999. <a href="http://www.state.gov/www/policy remarks/1999/990623\_jones\_iraq.html">http://www.state.gov/www/policy remarks/1999/990623\_jones\_iraq.html</a> [6 December 2000].
- Jouas, Jan-Marc. "No-Fly Zones: An Effective Use of Airpower, or Just a Lot of Noise?" Unpublished Research Paper, Weatherhead Center for International Affairs, Cambridge, MA: 1998.
- JTF-SWA J2. <u>JTF-SWA Mission</u>, 9 November 2000. <a href="https://www.jtfswa.centcom.smil.mil.links/">www.jtfswa.centcom.smil.mil.links/</a>> [11 January 2001].

- Kapsaroff, Chris. "Socking it to U.S. Taxpayers in the Persian Gulf." <u>U.S. Naval</u> <u>Institute Proceedings</u>, vol. 125 no. 2 (February 1999): 2.
- Kent, Glenn A. and David A. Ochmanek. <u>Defining the Role of Airpower in Joint Missions</u>. Santa Monica: RAND, 1998.
- Lancaster, John. "U.S. to Give Help to Iraqi Opposition." MSNBC News: International News, 14 January 2000: p. 2. <a href="http://www.msnbc.com/msn/516026.asp">http://www.msnbc.com/msn/516026.asp</a> [14 January 2000].
- Litwak, Robert S. Rogue States and U.S. Foreign Policy: Containment after the Cold War. Washington, D.C.: Woodrow Wilson Center Press, 2000.
- MacIntyre, Douglas. "Crude Oil Market Outlook: State Heating Oil and Propane Program Conference." <u>Petroleum Division, Energy Information Administration</u>. 21 August 2000. <a href="https://www.eia.doe.gov">www.eia.doe.gov</a>> [29 December 2000].
- Maier, Cindy. "CENTAF Commander Visits Southwest Asia." <u>Air Force Link</u>, 17 January 2001. <a href="http://www.af.mil/news/n20010117\_0059.shtml">http://www.af.mil/news/n20010117\_0059.shtml</a> [17 January 2001].
- Matthews, Lloyd J., ed. <u>Challenging the United States Symmetrically and Asymmetrically: Can America be Defeated?</u> Carlisle Barracks: Strategic Studies Institute, 1998.
- Matthews, William. "No End in Sight to Saddam's Hold on Power." Air Force Times, vol. 59 no. 34 (29 March 1999): 20.
- McKelvey, Michael V. "Air Power in MOOTW: A Critical Analysis of Using No-Fly Zones to Support National Objectives." Unpublished Research Paper, Air Command and Staff College, Maxwell AFB, AL: 1997.
- "National Security Strategy for A New Century." <u>National Security Strategy</u>. White House, December 1999.
- Page, Robert A. <u>Bombing to win: Air Power and Coercion in War</u>. Ithaca: Cornell University Press, 1996.
- Palmer, Jennifer. "United States keeps Pressure on No-Fly Zones above Iraq." <u>Air Force Times</u>, vol. 59 no. 22 (4 January 1999): 6.
- Romanowski, Alina L. "Testimony, House International Relations Committee."

  <u>U.S.-IraqPolicy</u>, 23 March 2000, http://www.usis.it/file2000\_03/alia/a0032418.htm>
  [7 December 2000].

- Rugh, William A. "Time to Modify our Gulf Policy." Middle East Policy Council Journal: Middle East Policy, Vol. 5 (January 1997): 1. <a href="http://www.mepc.org/journal/9701">http://www.mepc.org/journal/9701</a> rugh.html> [7 December 2000].
- Schmitt, Michael M. <u>International Law Studies: Levie on the Law of War</u>. Newport, RI: Naval War College Press, 1998.
- Shanahan, John N.T. "The Roles of Operational Design and Synchronization in No-Fly Zones." Unpublished Research Paper, U.S. Naval War College, Newport, RI: 1996.
- "Shape, Respond, Prepare Now: A Military Strategy for a New Era." <u>National Military Strategy</u>. Chairman of the Joint Chiefs of Staff, 1997.
- "Summary of UN Security Council Resolutions on Iraq." <u>USCENTCOM Theater</u>
  <u>Strategy</u>, 14 Feb 2000. <a href="http://www.centcom.mil/theater\_strat/theater\_strat.htm">http://www.centcom.mil/theater\_strat/theater\_strat.htm</a> [6 December 2000].
- "U.S. Crude Oil Imports: Growing U.S. Dependence." <u>Energy Information</u>
  <u>Administration / Petroleum 1996: Issues and Trends</u>, February 1997: 76.
- United States Central Command. <u>USCENTCOM Theater Strategy</u>. 14 February 2000. <a href="http://www.centcom.mil/theater\_strat/theater\_strat.htm">http://www.centcom.mil/theater\_strat/theater\_strat.htm</a>> [21 December 2000].
- . <u>AFDD 2-1: Air Warfare</u>. Maxwell AFB, AL: Headquarters Air Force Doctrine Center, 2000.
- \_\_\_\_\_. <u>AFDD 2-1.1: Couterair Operations</u>. Maxwell AFB, AL: Headquarters Air Force Doctrine Center, 1998.
- . AFDD 2-3: Military Operations Other Than War. Maxwell AFB, AL: Headquarters Air Force Doctrine Center, 1996.
- Warden, John. Planning to Win. Canberra, Australia: Air Power Studies Center, 1998.
- Warner, Margaret. "Interviews: A Continuing Fight." PBS Online News Hour, 17 August 1999. <a href="http://www.pbs.org/newshour/bb/middle\_east/july-dec99/iraq\_8-17.html">http://www.pbs.org/newshour/bb/middle\_east/july-dec99/iraq\_8-17.html</a> [7 December 2000].
- Weller, Marc. "The U.S., Iraq and the Use of Force in a Unipolar World." Survival, 41-4 (Winter 1999-2000): 81-100.